A Project on Online MCQ Quiz Application

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A Project on Online MCQ Quiz Application

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Introduction to Project

The 'MCQ Quiz Application' project will be developed to overcome the time consuming problem of manual system. Apart from that in current system, checking the answer sheets after taking test, waste the examiners time, so this application will check the correct answer and save the examiner time and carry the examination in an effective manner. The users which are use this system don't need to high computing knowledge and also system will inform them while entering invalid data.

The aim of this project is to computerized the existing manual system and help the examiners to save their valuable time and important data. Apart from this, data which are exist in this system, will exist for long period of time and will be easy accessible. This project helps the examiners to manage their services in a good way and provide a better service to their users.

The objective of this project is to manage the details of students, examinations, marks, courses and papers in a good manner. The performance of the application will be fully control by administrator and administrator can guaranty any one to access. The project will reduce the manual process in managing examinations and all issues regarding that.

Functionalities of the project will be as following:

- Able the examiners to punch the MCQ questions online;
- Able the users to solve the questions online;
- Examiners can manage the information regarding exam;
- Correct answers will be evaluated by system (First it should be determining by examiner);
- Users can see their result after submitting the test.

To design and implement this project we plan that the project support to different types of users apart from its administrative part. When project is run for the first time it allowed the user to select as who he/she wants to login in the system. Project support login as teacher and login as student. If a user who is student, try to login as teacher system will not allow him and vice versa. User who add as teacher in system will be able to punch test and questions to system and also will be able to observe the result of the student which attempt tests. User who login to system as student will be able to select a particular test and attempt questions depend on this test. After attempting the test and submitting that user will receive a message that you have attempt the test successfully and if the user tries to attempt the same test, system will not allow him/her. Also a user which login to system as student will be able to observe the result of test he/she attempt.

To conclude introduction, we have use these modules to follow the objectives of our project and each of these modules have logical connections to other modules which they are depend.

- **Index:** Which allow users to select their type of login to system;
- **Teacher Login:** Able the teachers to login to system with a valid user name and password. If a teacher is successfully login to system, he/she will have access to following pages:
    - **Teacher Home:** Which have information about Online MCQ Quiz and issues support by this system for the teachers;
    - **Punch Test:** Which able the teacher to punch a test and after entering the test name and clicking on 'Submit to Enter Questions', teacher will be able to add questions to the particular test.
    - **Students Marks:** Which able the teacher to observe the result of all student who have attempt the tests;
- **Student Login:** Able the students to login to system with a valid user name and password. If student is successfully login to system, he/she will have access to following pages:
    - **Student Home:** Which have information about Online MCQ Quiz and issues support by this system for students;
    - **Attempt Test:** Which able the student to select a particular test for attempting from the existing test in system from drop down list and after clicking on 'go to

selected test', the questions of selected test will be displayed for the student to attempt. Than student will be able to attempt the questions and after submitting, student will receive a message that test is successfully attempt.

o **Marks:** Which able the particular students to have access to result of the test which he/she attempt.

Existing Systems

There are various MCQ quiz applications exist in the internet with different criteria. Each of the existing applications has their own goodness and problems. In this MCQ quiz application which is designed and implemented in JSP based we try to overcome the existing problems with following features:

- Remove source confuse issue;
- Better management;
- Connection to database for better storing of data;
- Better frontend management;
- Better backend management;
- Try to decrease error issuer during runtime.

Project Objectives

The main objective of the project MCQ Quiz Application is to manage the details of students, examinations, marks, courses and papers. The project is totally at administrative end and thus only the administrator is granted the access. The purpose of the project is to build an application to reduce the manual work for managing the MCQ quiz and we will follow to achieve these objectives in this project.

- To create an appropriate platform for best managing of MCQ test;
- To overcome the time consuming issues and taking MCQ tests;
- To release the marks of the test taker as soon as possible;
- To manage the information of different tests.

Methodology

The **methodology** of developing of project will be a step-by-step sequence to design, develop and deliver the application. In software engineering this methodology called 'waterfall model' which one portion of work follows after another in a linear sequence. Following steps will be followed in this methodology:

- Initiation (Requirement Specification);
- Planning and design;
- Execution (construction and coding);
- Validation (Testing);
- Closure (Installation and Maintenance).
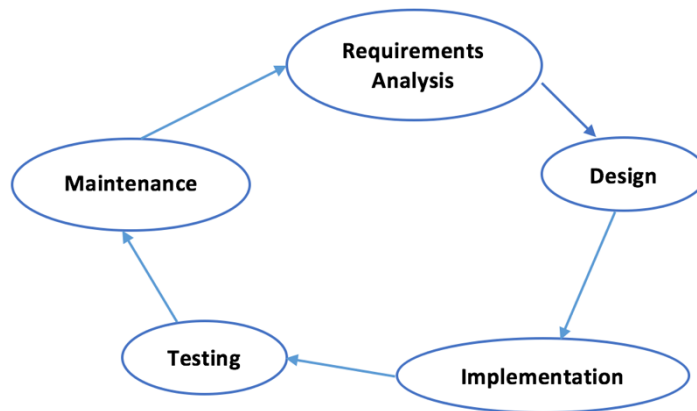
Figure 1: SDLC Diagram of Project

Project Requirements Specification

By project requirements specifications we can analyze the tasks which going to be done by the system. The function and performance of allocated to software as part of system engineering are refined by establishing a complete information description. A detailed functional and behavioral description of the project and concentrating on requirements and constraints of that will provide and good product. The proposed system should follow these requirements:

- System must store information about users (Student and Teachers), tests, questions and result;
- System should able the teacher to punch tests;

- Each teacher should be able to punch many tests;

- System should do not allow unauthorized user to enter the system;

- Each student should be able to attempt many tests;

- System should keep and display the results of Students;

- System should support test which one or more question dependent on it;

- System should allow the administrator to delete and update tests and questions dependent on it.

Project Design

For designing and implementing of Online MCQ Quiz application we used HTML, CSS, JavaScript and SQL Server with the context of Java and JSP. Following pages have been designed using HTML, CSS and JavaScript to handle the defined objective of this project.
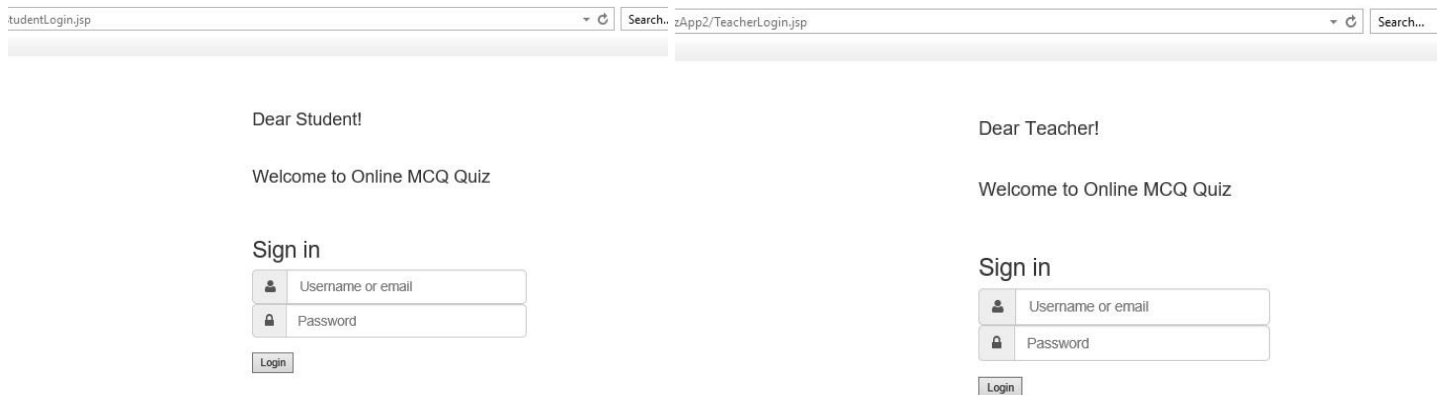
1. **Index:** This the first page which user observe after running the project. This page will able the user to select the type of login. Selecting "Login as Teacher" will direct the user to Teacher Login Page and selecting "Login as Student" will direct the user to Student Login Page.
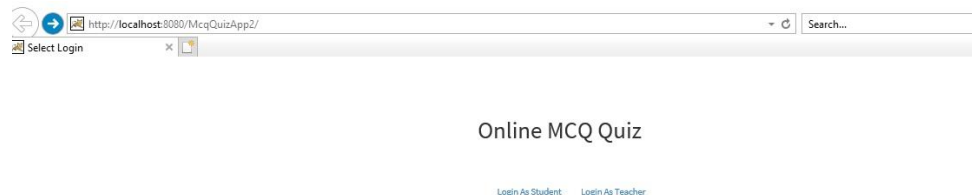
Figure 2: Project Index Page

2. **Login Pages:** Login page exist for both teachers and student. After user select the type of login from figure 2, the login page of particular user will be displayed. Users enter their user name and password and after clicking on login first system will check is it a valid user or not. If user is authenticated by the system, will be directed to particular Home Page

and if not authenticated by the system the message "Either user name or password is incorrect" will be displayed to user.

Figure 3: Student & Teacher Login Pages

3. **Home Pages:** After users successfully login to system. Each particular user will be directed to their particular Home Page which are "Teacher Home" and "Student Home". Teacher Home will able the teachers to observe information about the Online MCQ Quiz and punch a test by clicking on "Punch Test" and observe student results by clicking on "Student Marks". Student Home will able the student to observe the information about the Online MCQ Quiz, attempt a test by clicking on "Attempt Test" and observe his/her result by click on "Marks".
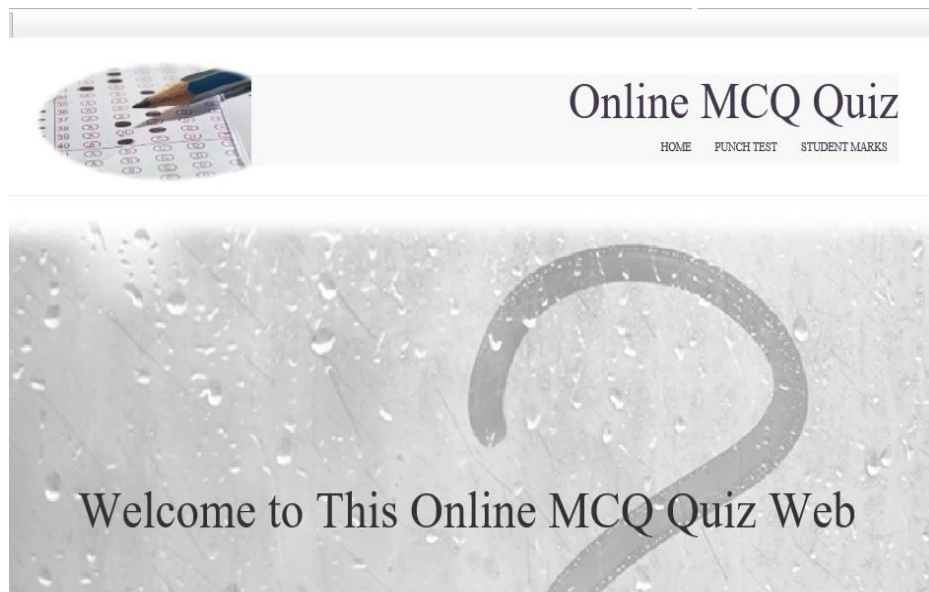
Figure 4: Teacher Home Page
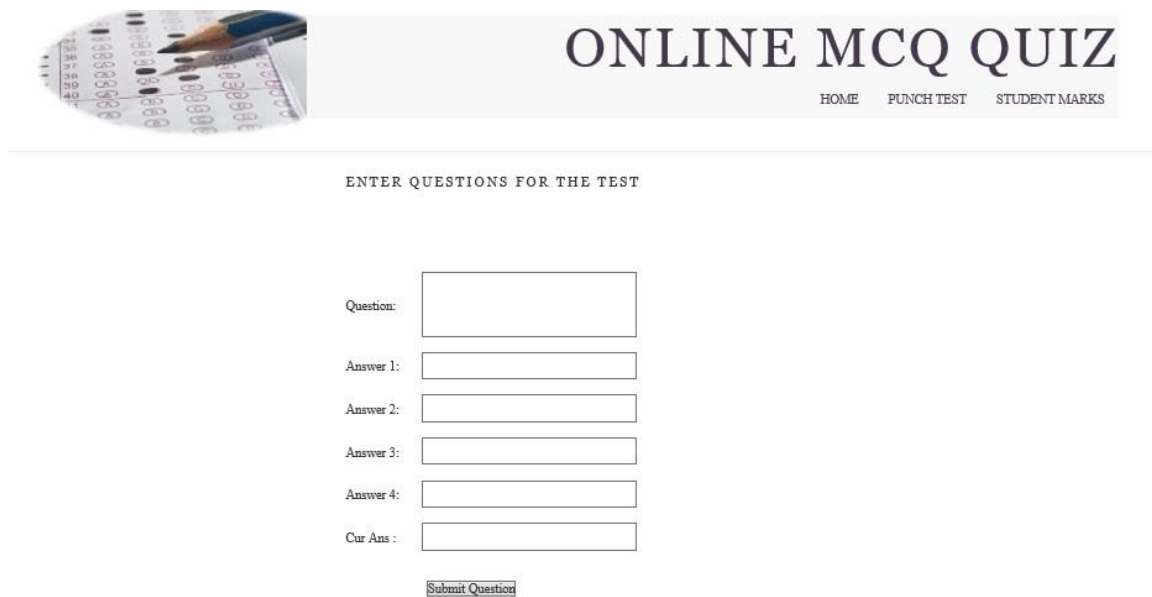
Figure 5: Student Home Page

4. **Punch Test:** Clicking on punch test in Teacher Home will direct the teacher to a page which allow the teacher to write the name of test he/she wants to punch. When teacher type the name of test and click on "Submit to Questions", system will be directed to Insert Question page.

Figure 6: Entering Name of Test

By clicking on "Submit to Enter Question" button, teacher will be able to insert question for the particular test which he/she enter its name. As the teacher enter the test name, an automatic ID will be generated for this test in Test Table of database and all a session will be created, all questions which entered will be store for the particular test according to Test ID and session which has been created. Teacher will receive

of "Question Successfully Sored" each time when he/she write the questions and its answer and click on "Submit Question" button.
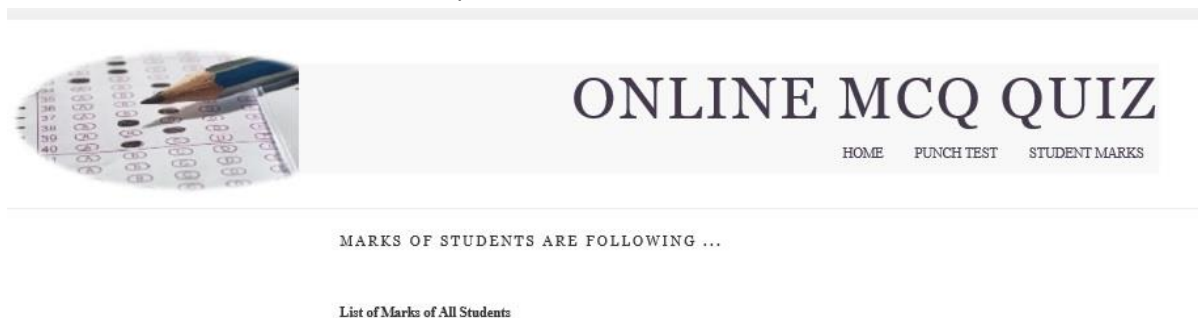

Figure 7: Insert Question Page

5. **Student Marks:** Clicking on "Student Marks" will direct the teacher to page which display the result of all students which attempt the test.

Figure 8: Result of All Student Which Attempt the Tests

6. **Attempt Test:** Clicking on "Attempt Test" on Student Home will direct the student to the page which able the student to select the test he/she wish to attempt. After student select the test from drop down list and click on "Go to Selected Test", the system will be directed to the questions of particular test.

Figure 9: Select Test Page of Student

When student select the test and click on "Go to Selected Test" the page will be directed to questions of selected test. Student can attempt all questions of that test and after clicking on "Submit Test", will receive a message that "You Have Successfully Attempt" the test. If the particular student has already attempt the test before, he/she will receive the message "Sorry, You Have Already Attempted this Test".

Figure 10: Attempting Test Page

7. **Marks:** Clicking on "Marks" in Student Home will direct the system to the page which will show the result of particular student for all test he/she attempt.

Figure 11: Result off All Test for Particular Student Which Have Taken

Coding

As mentioned before, project is on java platform and its web based which is coded in NetBeans IDE with help HTML, CSS and JavaScript. So codding exist for all following pages which sample of index pages pasted:

- **Index page**

```
<%--
    Document   : index
    Created on : Oct 23, 2018, 4:23:10 PM
    Author     : Behmanush
--%>

<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
  <head>
        .
        .
        .
```

- **Teacher Login**
- **Student Login**
- **Teacher Home**

- **Student Home**

- **Punching Test and its questions**

- **Selecting test and attempting its questions**

- **….**

Future Scope and Conclusion

As mentioned the project is on java platform which is coded in NetBeans IDE with help HTML, CSS and JavaScript and running as web page by Apache Tomcat web server. But this project is only for MCQ test but in the future we have plan to extended it to support subjective type of questions with more functionality. We will add Administrative part on it which able the system to delete test, add user, delete user and so on graphically vie the web.

To conclude, this is a simple Online MCQ Quiz which able a teacher to punch MCQ question to system which will be store in SQL Server database and able the student to attempt any test for once. The marks of student will be calculated according to questions they attempt and will be displayed by the system to teachers and student.

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